

PROJECT SUMMARY SHEET

PROJECT TITLE NAME: Little White River Watershed Assessment

NAME AND ADDRESS OF LEAD PROJECT SPONSOR:

Mellette Conservation District
P.O. Box I
White River, SD 57579-0244

LOCAL CONTACT: Kara Krogman
District Manager
P.O. Box I
White River, SD 57579-0244
Telephone: (605) 259-3252
Fax: (605) 259-9251

STATE CONTACT: Gene Stueven,
Environmental Senior Scientist
SDDENR
523 East Capitol Avenue
Pierre, SD 57501
Telephone: (605) 773-4254
Fax: (605) 773-4068

STATE: South Dakota WATERSHED: White River HUC#: 10140203

PROJECT TYPES : BASE WATERSHED GROUNDWATER I&E

WATERBODY TYPES

NPS CATEGORY

- | | | |
|---|--|--|
| <input type="checkbox"/> Groundwater | <input checked="" type="checkbox"/> Agriculture | <input type="checkbox"/> Hydrologic modification |
| <input type="checkbox"/> Lakes/Reservoirs | <input type="checkbox"/> Urban Runoff | <input type="checkbox"/> Other |
| <input checked="" type="checkbox"/> Rivers | <input type="checkbox"/> Silviculture | |
| <input checked="" type="checkbox"/> Streams | <input type="checkbox"/> Construction | |
| <input type="checkbox"/> Wetlands | <input type="checkbox"/> Resource Extraction | |
| <input type="checkbox"/> Other | <input type="checkbox"/> Stowage and Land Disposal | |

PROJECT LATITUDE 45.673809 LONGITUDE -97.318471

SUMMARIZATION OF MAJOR GOALS:

The goal of the Little White River Assessment Project is to locate and document sources of nonpoint source pollution (primarily excess sediment loading) in the watershed. This project will produce TMDL reports for the listed segments of the waterbody and feasible restoration recommendations that may lead to a watershed implementation project.

PROJECT DESCRIPTION:

The Little White River is a major tributary to the White River that eventually dumps into the Missouri River Reservoir, Lake Francis Case. The watershed of the Little White River in Mellette County is approximately 242,000 acres and a mixture of cropland and pasture. Little White River was listed on the 1998 303(d) list for violation of total suspended solids standards. The Little White River carries a natural load of colloidal clays and small sands. A major emphasis of this proposal will be to document the amount of total suspended solids from natural background. Through water quality monitoring, stream gauging and land use analysis, the sources of impairment to the river and the watershed will be documented and feasible recommendations for restoration will be presented in the final project report.

319 funds requested (FY-02) \$50,500
Other Federal Funds \$ 0
319 Full Time Employee Equivalents 1

Local Match \$16,660
State Fee Funds \$17,000
Total project cost \$84,160

2.0 STATEMENT OF NEED

- 2.1 The purpose of this assessment is to determine the sources of impairments to the Little White River in Mellette County, South Dakota. The creeks and small tributaries of the Little White River are intermittent streams with loadings of sediment and nutrients. Much of the sediment carried by the Little White River is thought to be natural background. South Dakota will concentrate on the Mellette County portion of the Little White River because the southern portion of the watershed in Todd County is on the Rosebud Reservation. Tribe being a sovereign nation has the responsibility to assess and write TMDLs in tribal areas. EPA would not accept a TMDL from the state in the Todd county portion of this watershed.
- 2.2 Little White River was targeted for assessment because it was listed on the 303(d) list for impaired waterbodies for total suspended solids.

The streams in the watershed drain predominantly agricultural lands with both cropland and grazing acres. Feedlots and winter feeding areas for livestock are present in the watershed. The streams carry sediment loads and nutrient loads.

The watershed area for Little White River in Mellette County is approximately 242,000 acres. The city of White River is located in the watershed and does discharge periodically to the Little White River according to the DENR approved permit. The city of Rosebud is outside of this projects watershed area but discharges to Little White River upstream of the project area. The City of Rosebud does not have a DENR approved permit.

The species listed in the federal list of threatened and endangered species are the bald eagle (*Haliaeetus leucocephalus*), and black-footed ferret (*Mustela nigripes*). These species will not be impacted by the assessment work of this project.

- 2.3 See map in Figure 1.
- 2.4 Land use in the watersheds is primarily agricultural grazing (82%) and cropland (15%). Small grain and hay are the main crops on cultivated lands. Some animal feeding areas are located in the watershed. The major soil associations found in the Little White River watershed are Haverson-Glenberg, Samsil-Lakoma, Poal-Promise-Samsil, Tuthill-Mnater, Imlay-Conata, Badland, Norrest, Epping-Huggins-Imlay, Huggins-Kadoka, and Ree.

The average annual precipitation in the watershed is 19.12 inches of which 75% usually falls in April through September. Thunderstorms, the main source of precipitation in the growing season, vary widely in intensity and amount of rainfall. These storms are local and of short duration and occasionally produce heavy rain fall events. The average seasonal snowfall is 33 inches per year.

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Little White River Watershed Site

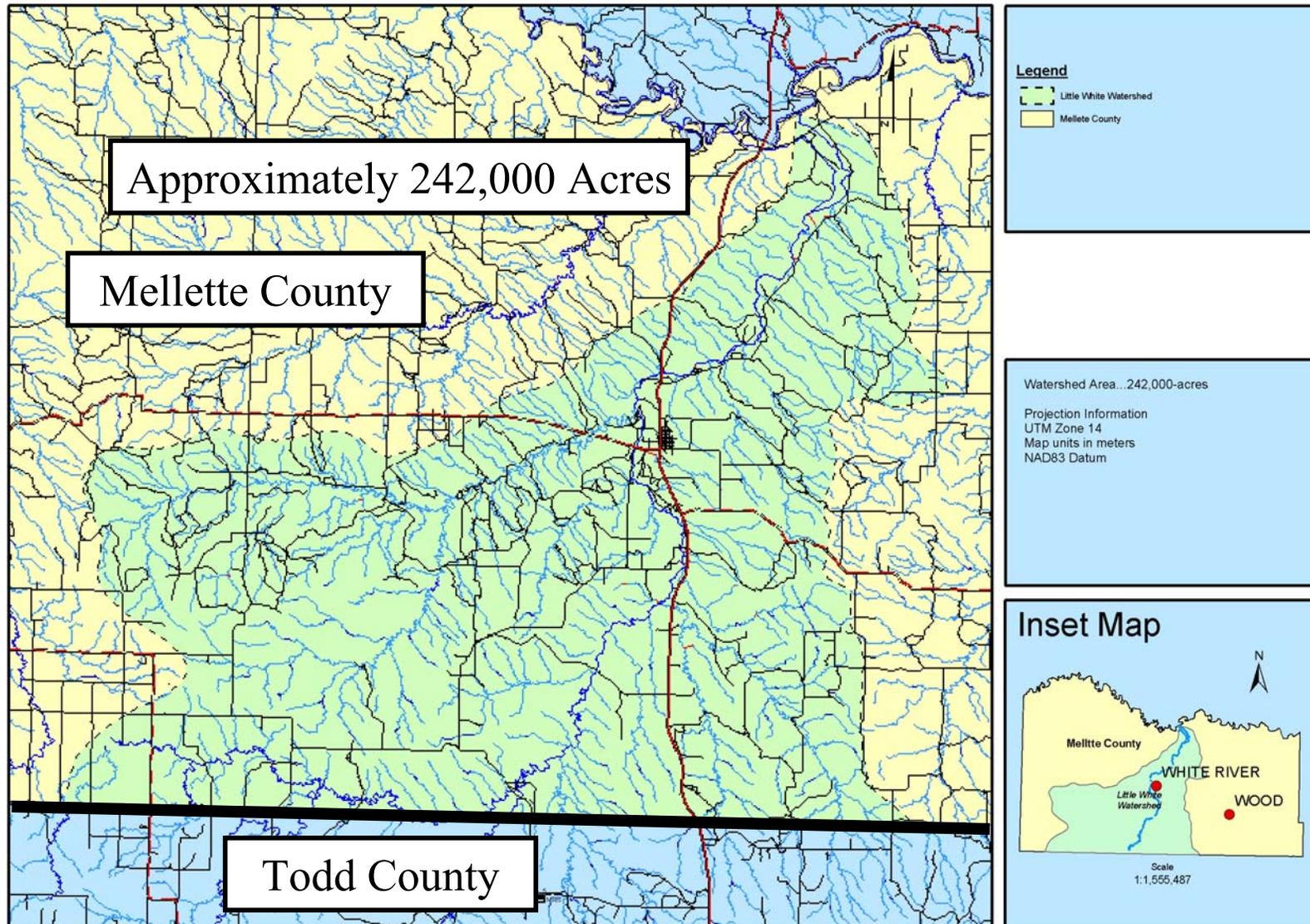


Figure 1. Little White

ASSESSMENT WORKPLAN

3.0 The Little White River Assessment Project is a comprehensive assessment that will address sediment and nutrient problems in the watershed. The overall goal is to produce a TMDL for total suspended solids and improve the general water quality of the watershed. This will be accomplished by planning an effective implementation project and/or creating a site-specific standard that realistically reflects the natural conditions found in the watershed. Reducing nonpoint pollutants in the watershed will improve the water quality in the watershed and improve habitat for upland and aquatic species.

3.1 OBJECTIVES AND TASKS

OBJECTIVE 1: Determine two reference conditions for comparison with the targeted monitoring sites throughout the watershed.

TASK 1 Selecting The Reference Sites

Before gauging equipment is installed for the watershed project. The local sponsor and project officer will find two sites that would be considered least impacted. The sites should be representative of the other sample sites to be selected.

One site should be representative of the tributaries entering the Little White River and the other site should be representative of the main channel itself.

If a reference site cannot be found within the watershed the sponsoring entities may look at watersheds outside the project area but within a reasonable distance.

Consideration for the sites should include land use, river morphology, soil type and other pertinent factors.

OBJECTIVE 1 BUDGET

Line Items	Non-Federal				Federal 319 (FY-02)	Total
	Inkind	Cash	Conservation Commission	State Fee Fund		
Local Coordinator (@ \$15/hr)				\$2,000		\$2,000
Local Administration				\$200		\$200
Travel		\$300				\$300
Biological Analysis						\$0
Water Quality Analysis						\$0
Equipment						\$0
Supplies and Shipping						\$0
Total	\$0	\$300	\$0	\$2,200	\$0	\$2,500

PRODUCTS:

- One reference site that represents the tributaries entering the main channel
- One reference site that represents the main channel of the Little White River

RESPONSIBLE AGENCIES:

Task Responsibility:

Project Coordinator
Project Sponsor

Technical Assistance:

South Dakota Department of Environment and Natural Resources

WORK ACTIVITIES:

Meeting with various agencies to help determine a reference site in the watershed based on agreed upon parameters.

OBJECTIVE 2:

Determine Current Annual Load Of Nutrients And Sediment To The Little White River. This Information Will Be Used To Help Determine The Target And Goals Of The TMDL And Also Be Used To Verify The Results Of The Land Use Modeling. The Information Will Be Collected At The Sites Listed In Table 1 And Shown In Figure 2.

TASK 2

Installation of Gauging Equipment

Install water level recorders on 5 monitoring sites and maintain a continuous stage record for the project period, with the exception of winter months after freeze up. There is one USGS gauging station located on the main channel of the Little White River just north of the City of White River. No gauging equipment will be

needed for this site and the discharge data will be acquired from USGS. The tributary sites are listed in Table 1.

TABLE 1. TRIBUTARY SITES

Site Name	Description
LWR01	Cut Meat Creek just before entering the Little White River
LWR02	Horse Creek just before entering the Little White River
LWR03	North branch of Pine Creek
LWR04	Pine Creek just before entering the Little White River
LWR05	The Little White River just north of White River (USGS gauging site)
LWR06	Little White River just before it enters the White River

TASK 3 Determine the Annual Water Discharge At Each Site.

Discrete discharge measurements will be taken on a regular schedule and during storm surges. Discharge measurements will be taken with a hand held current velocity meter.

Discharges should be taken at different stages and frequently enough to develop a stage discharge rating curve. Discharge measurements and water level data will be used to calculate a hydrologic budget for the stream systems. This information will be used with concentrations of sediment and nutrients to calculate loadings from the watershed.

TASK 4 Collect Water Chemistry Samples At The Selected Sites And The Physical, Chemical, And Bacterial Parameters Found In Table 2.

Collect water quality samples from 6 tributary monitoring sites and the two reference sites. Samples will be collected during spring runoff, storm events, and monthly base flows. Proposed water quality monitoring sites may be found in Figures 2.

Samples will be collected twice weekly during the first week of spring snowmelt runoff and once a week thereafter until runoff ceases (5). Storm events (4) and base flows (4) will be sampled throughout the project period. Approximately 13 samples will be collected at each site for an estimated total number of 104 samples.

TABLE 2. PARAMETERS MEASURED FOR TRIBUTARY SAMPLES:

PHYSICAL	CHEMICAL	Bacterial	BIOLOGICAL
Air temperature	Total solids	Fecal Coliform	
Water temperature	Total susp. Solids	E.Coli	
Discharge	Dissolved oxygen		Benthic macroinvertebrate
Depth	Ammonia		Organic dry ash weight
Visual observations	Un-ionized ammonia		
Water level	Nitrate-nitrite		
	TKN		
	Total phosphorus		
	Total dis. phosphorus		
	Volatile suspended solids		
	Chlorophyll <i>a</i>		
	Field pH		

TASK 5 Collection Of Biological Samples At All Reference And Monitoring Sites According To The Biological Parameters Found In Table 2.

Benthic macroinvertebrate samples will be collected twice during the project at each of the tributary monitoring and reference sites. Composite samples will be collected according to the department's standard operating procedures for benthic macroinvertebrates. Samples will be collected using either a D-net or a Courtemanch sampler. All samples will be collected during a late summer to fall index period during the project and sent to a private consultant for processing.

Periphyton samples will be collected at each site during July and August. The samples will be collected using the department's standard operating procedures for periphyton collection. Samples will be sent to a private consultant for enumeration and identification. The determination of periphyton chlorophyll *a* and dry ash weight will also be conducted.

Little White River Watershed Site Locations

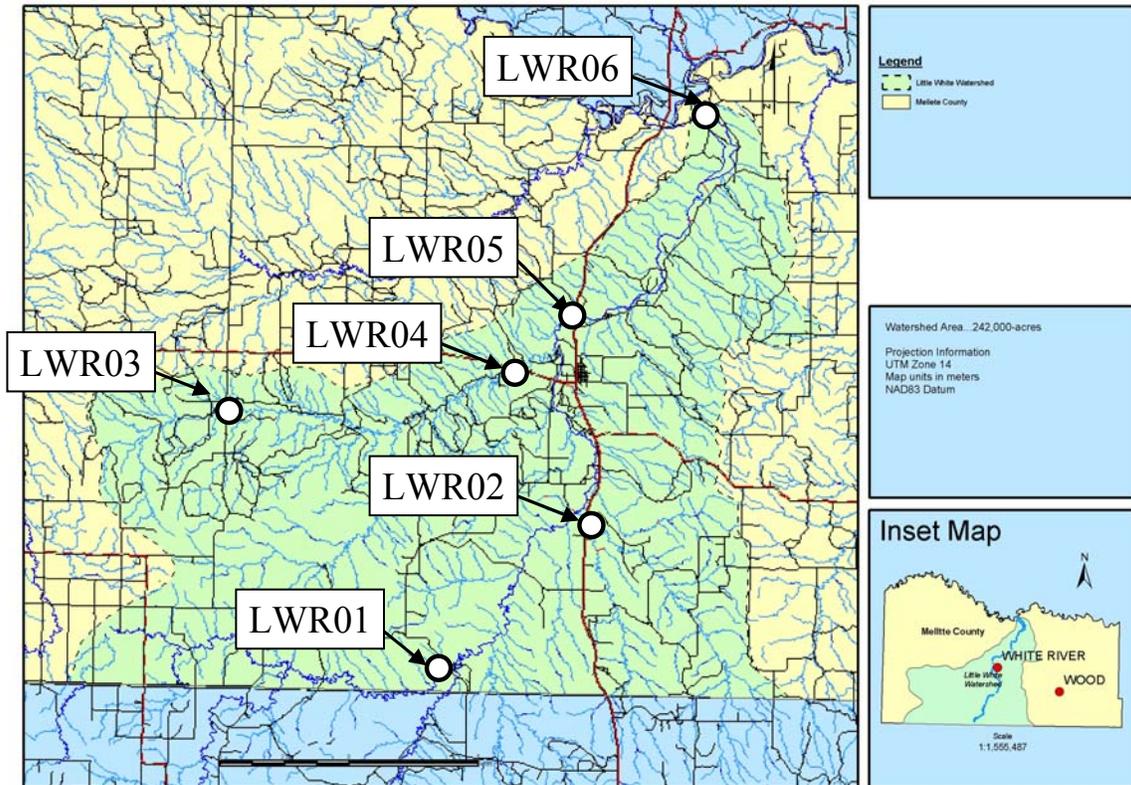


Figure 2. Tributary Site Locations

OBJECTIVE 2 BUDGET

Line Items	Non-Federal				Federal 319 (FY-02)	Total
	Inkind	Cash	Conservation Commission	State Fee Fund		
Local Coordinator (@ \$15/hr)					\$13,600	\$13,600
Local Administration	\$1,000			\$400		\$1,400
Travel		\$1,100		\$1,000		\$2,100
Biological Analysis					\$6,720	\$6,720
Water Quality Analysis			\$6,200		\$9,400	\$15,600
Equipment				\$3,000	\$1,000	\$4,000
Supplies and Shipping						\$0
Total	\$1,000	\$1,100	\$6,200	\$4,400	\$30,720	\$43,420

PRODUCTS:

- Installation of all necessary gauging equipment (5 monitoring sites and 2 reference sites)
- Collection of necessary discharge measurements at differing stages (minimum of 8 at each site)
- Collection of water chemical samples (approximately 13 per site depending on discharge)
- Collection of macroinvertebrate and periphyton samples. (Approximately 16 macroinvertebrate samples and approximately 16 samples for periphyton ID, chlorophyll *a* and ash free dry weight).

RESPONSIBLE AGENCIES:

Task Responsibility:

Project Coordinator
Project Sponsor

Design and Technical Assistance:

South Dakota Department of Environment and Natural Resources

WORK ACTIVITIES:

The collection and organization of all discharge water quality and biological data. All samples will be collected according to the program's Standard Operating Procedures for Field Samplers.

OBJECTIVE 3: Evaluation Of Agricultural Impacts To The Water Quality Of The Watershed Through The Use Of The Annualized Agricultural Nonpoint Source (ANNAGNPS) Model.

TASK 6 ANNAGNPS Model Data Collection

The Little White River watershed in Mellette County will be modeled using the ANNAGNPS model. ANNAGNPS is a comprehensive land use model that estimates sediment and nutrient loss and delivery and evaluates the impacts of livestock feeding areas. The watershed will be divided into cells. Each cell will be analyzed after collecting a variety of parameters for each cell with additional information collected for animal feeding operations.

TASK 7 Determine critical areas and attainable TMDL targets and goals.

This model will be used to identify critical areas of nonpoint source pollution to the surface waters in the watershed. If critical

areas are found, the model will be used to determine attainable targets and goals for the TMDL.

OBJECTIVE 3 BUDGET

Line Items	Non-Federal				Federal 319 (FY-02)	Total
	Inkind	Cash	Conservation Commission	State Fee Fund		
Local Coordinator (@ \$15/hr)					\$13,600	\$13,600
Local Administration		\$1,000		\$400		\$1,400
Travel		\$2,100				\$2,100
Biological Analysis						\$0
Water Quality Analysis						\$0
Equipment					\$3,000	\$3,000
Supplies and Shipping				\$1,000		\$1,000
Total	\$0	\$3,100	\$0	\$1,400	\$16,600	\$21,100

PRODUCTS:

- Data collected and organized on the Little White River watershed in Mellette County.
- Critical areas identified and attainable reductions calculated.

RESPONSIBLE AGENCIES:

Task Responsibility:

Project Coordinator
Project Sponsor

Design and Technical Assistance:

South Dakota Department of Environment and Natural Resources
NRCS

OBJECTIVE 4: Assessing The Affects Of Prairie Dogs On Sediment Transport

TASK 8 Locating A Prairie Dog Sampling Site

Local coordinator will work with the conservation district and the NRCS to find suitable sample sites above and below a prairie dog town.

The local coordinator will also find a pasture with similar characteristics with out prairie dogs.

TASK 9 Develop Sediment Loads Above And Below The Prairie Dog Town For Comparison To An Area Not Affected By Prairie Dogs

The local coordinator will collect discrete discharge samples during run-off events (approximately 9 samples at each site).

The local sampler will collected discharge measurements, total suspended solids, and total volatile suspended solids samples during each event that is sampled.

The results of the data will be analyzed and included in the final report.

OBJECTIVE 4 BUDGET

Line Items	Non-Federal				Federal 319 (FY-02)	Total
	Inkind	Cash	Conservation Commission	State Fee Fund		
Local Coordinator (@ \$15/hr)				\$2,100	\$1,800	\$3,900
Local Administration				\$400		\$400
Travel		\$600				\$600
Biological Analysis						\$0
Water Quality Analysis			\$1,620			\$1,620
Equipment						\$0
Supplies and Shipping					\$200	\$200
Total	\$0	\$600	\$1,620	\$2,500	\$2,000	\$6,720

PRODUCTS:

- Locate 4 sites as described in the objective.
- Collect an estimated 9 discrete samples at each site..

RESPONSIBLE AGENCIES:

Task Responsibility:

Project Coordinator
Project Sponsor

Design and Technical Assistance:

South Dakota Department of Environment and Natural Resources
NRCS

WORK ACTIVITIES:

Collect data to determine the impact of a prairie dog town on the sediment that enters a drainage.

OBJECTIVE 5: QA/QC

TASK 10 QA/QC Procedures For Data Collection

The collection of all field water quality data will be accomplished in accordance with the Standard Operating Procedures for Field Samplers, South Dakota Nonpoint Source Program.

The number of QA/QC samples is based on a minimum of 10 percent of all samples collected. If the proposed sampling schedule is met, up to 10 blank and 10 replicate QA/QC samples will be collected for water chemistry samples. Approximately 2 QA/QC samples will be collected for benthic macroinvertebrates, periphyton ID's, chlorophyll *a*, and ash free dry weight.

All QA/QC activities will be conducted in accordance with the Nonpoint Source Program Quality Assurance Project Plan.

The activities involved with QA/QC procedures and the results of QA/QC monitoring will be compiled and reported on in a section of the final project report and in all project reports.

All samples will be collected using the methods described in the Standard Operating Procedures for Field Samplers by the State of South Dakota Water Resources Assistance Program. Range conditions will follow NRCS methodologies, stream and habitat assessment will follow EMAP methodologies.

OBJECTIVE 5 BUDGET

Line Items	Non-Federal				Federal 319 (FY-02)	Total
	Inkind	Cash	Conservation Commission	State Fee Fund		
Local Coordinator (@ \$15/hr)				\$3,000		\$3,000
Local Administration				\$200		\$200
Travel						\$0
Biological Analysis					\$840	\$840
Water Quality Analysis		\$1,500	\$180			\$1,680
Equipment						\$0
Supplies and Shipping					\$200	\$200
Total	\$0	\$1,500	\$180	\$3,200	\$1,040	\$5,920

PRODUCTS:

- 10 QA/QC sample sets for water chemistry (a set includes one blank and one replicate)

- 2 benthic macroinvertebrate QA/QC samples
- 2 periphyton identification and enumeration QA/QC samples
- 2 periphyton chlorophyll *a* samples
- 2 periphyton ash free dry weight QA/QC samples

RESPONSIBLE AGENCIES:

Task Responsibility:

Project Coordinator

Project Sponsor

Design and Technical Assistance:

South Dakota Department of Environment and Natural Resources

WORK ACTIVITIES:

Approved QA/QC will be utilized on all sampling and field data collected during the Little White River Assessment Project. Please refer to the South Dakota Nonpoint Source Program Quality Assurance Plan and the South Dakota Nonpoint Source Program Standard Operating Procedures for Field Samplers for details of the procedures to be followed.

OBJECTIVE 6: PUBLIC PARTICIPATION

TASK 11 Public Participation And Involvement Will Be Provided For And Encouraged.

Informational meetings will be held on a quarterly basis for the general public and to inform the involved parties of progress on the study. These meetings will provide an avenue for input from the residents in the area. A concluding meeting will be held while the watershed assessment final draft is finished to get any last public input and comment into the draft report for DENR and EPA review.

News releases will be prepared and released to local news media on a quarterly basis. These releases will be provided to local newspapers, radio stations and TV stations.

OBJECTIVE 6 BUDGET

Line Items	Non-Federal				Federal 319 (FY-02)	Total
	Inkind	Cash	Conservation Commission	State Fee Fund		
Local Coordinator (@ \$15/hr)				\$1,000		\$1,000
Local Administration				\$100		\$100
Travel		\$300				\$300
Biological Analysis						\$0
Water Quality Analysis						\$0
Equipment						\$0
Supplies and Shipping	\$160				\$40	\$200
Total	\$160	\$300	\$0	\$1,100	\$40	\$1,600

PRODUCTS:

- 5 public meetings will be held
- 4 news releases will be produced

RESPONSIBLE AGENCIES:

Task Responsibility:
Project Coordinator
Project Sponsor

Design and Technical Assistance:
South Dakota Department of Environment and Natural Resources

WORK ACTIVITIES:

Informational meetings will be held on a frequent basis for the general public to inform the involved parties of progress on the study and provide a means of public input.

OBJECTIVE 7: Reporting

TASK 12 Sponsor's Reporting Duties

The sponsor will submit no more than monthly requests for payments along with documented work completed since the last voucher.

The sponsor will fulfill EPA grant requirements by submitting semi-annual updates and annual reports for input into the GRTS reporting system.

Once the field data are collected, an extensive review of the historical and project data will be conducted. The data will be organized and a final report will be submitted to the project officer including all of the data and a financial report of money expended.

TASK 13 Department's Reporting Duties

The project officer will ensure all semi-annual and annual reports are sent to the GRTS reporting officer.

The department will be responsible the final report including hydrologic, sediment and nutrient budgets for the watershed.

The final report will also include the results of the ANNAGNPS modeling of the watershed, which includes cropped, range feedlot and pasture and will be used in conjunction with the water quality and hydrologic budget to determine critical areas in the watersheds.

The feasible management practices will be compiled into a list of recommendations for the development of an implementation project will also be included in the final project report.

The TMDL target and goals will be included in the final report of the Little White River Watershed Assessment document.

OBJECTIVE 7 BUDGET

Line Items	Non-Federal				Federal 319 (FY-02)	Total
	Inkind	Cash	Conservation Commission	State Fee Fund		
Local Coordinator (@ \$15/hr)				\$1,900		\$1,900
Local Administration				\$300		\$300
Travel		\$600				\$600
Biological Analysis						\$0
Water Quality Analysis						\$0
Equipment						\$0
Supplies and Shipping					\$100	\$100
Total	\$0	\$600	\$0	\$2,200	\$100	\$2,900

PRODUCTS:

- Semi annual and annual reports as required by the EPA grant
- Final report to the department from the sponsor
- Final report including the TMDL submitted to EPA by the Department of Environment and Natural Resources

RESPONSIBLE AGENCIES:

Task Responsibility:

Project Coordinator
Project Sponsor

Design and Technical Assistance:

South Dakota Department of Environment and Natural Resources

WORK ACTIVITIES:

All required GRTS reporting will be written according to EPA guidelines. An extensive review and study of the historical and current data will be done to determine the best management practices and hydrologic restoration techniques needed to improve water quality and reduce sediment transport in the Little White River watershed.

3.3 MILESTONE TABLE - see attached milestone.

3.4 No special permits are required to do this assessment project.

3.5 The Mellette Conservation District is the lead project sponsor for this project. The conservation district is important to this project because of its relationship with landowners in the watersheds. The main problem with this watershed appears to be total suspended solids.

4.0 COORDINATION PLAN

4.1 The following groups/agencies have agreed through an informal agreement to cooperate in the Little White River Assessment Project. Additional entities such as the SD Department of Game, Fish and Parks may provide supplemental information.

Mellette Conservation District - Local Project Sponsor.

RC&D – Financial and local support

West River Water Development District – Local support

South Dakota Association of Conservation Districts – Local support and technical assistance.

USDA Natural Resource Conservation Service – Support and technical assistance in acquiring land use and condition data.

US Environmental Protection Agency –Financial support and technical assistance.

South Dakota Department of Agriculture – Financial support and technical assistance.

South Dakota Department of Environment and Natural Resources – Financial support and technical assistance.

- 4.2 In 2002 the Little White River was listed on the 303(d) list for impaired waters for total suspended solids from the Todd County Line to the mouth of the the White River. The local conservation district was approached and agreed to accept the responsibility as local sponsor.
- 4.3 Local organizations as well as the SD Nonpoint Source Task Force have expressed support for the Little White River Assessment Project.
- 4.4 This project will coordinate with frequent informal conversations with state, federal, and local government agencies and through quarterly meetings with the conservation district.
- 4.5 There are currently no other agencies conducting assessment project activities on the Little White River in Mellette. USGS is working with The Rosebud Sioux Tribe to assess the portion of the Little White River in Todd County. The State has been in contact with both agencies.

5.0 EVALUATION AND MONITORING PLAN

- 5.1 The monitoring strategy is explained in section 3. The project will produce bi-annual progress reports. The sampling and analysis procedures required to complete the tasks within section 3 can be located in the Standard Operating Procedures for Field Samplers for the South Dakota Nonpoint Source Program (SOP). The specific locations of these sampling methods within the SOP as they pertain to each task are documented in Table 3 on the following page.
- 5.2 This assessment project consists of a combination of chemical, hydrologic, land use and biological analyses. Monitoring sites will be maintained and sampled on the Little White River watershed. Ambient samples will be collected along with spring runoff and storm events. Stream discharge will be routinely measured. The chemical, physical, and biological parameters to be sampled during this project can be located in Table 2. Loads will be calculated based on the samples and data collected with the approved methods identified in section 5.1. Land use modeling (AnnAGNPS) will be used to assess land use practices, identify priority areas and model reductions. A TMDL report will be produced for the Little White River in Mellette County.

- 5.3 All water quality monitoring will be done in accordance with the approved South Dakota Nonpoint Source Program Quality Assurance/Quality Control Project Plan and the Standard Operating Procedures for Field Samplers for the South Dakota Nonpoint Source Program. Range conditions will follow NRCS methodologies stream and habitat assessment will follow EMAP methodologies.
- 5.4 Results from all water quality monitoring efforts under the Little White River Assessment Project will be reported in the final project report. Data will be managed by the South Dakota Department of Environment and Natural Resources and maintained in a computer database. All sample data will be entered in the US EPA STORET Program by DENR. These data will be used as the foundation of a Section 319 Watershed Implementation Project proposal.

6.0 BUDGET

See attached budget pages

7.0 PUBLIC INVOLVEMENT

See Objective 6.

TABLE 3. Location of Sampling and Analysis Procedures for each applicable task involved with the Little White River Watershed Assessment Project.

TASK NUMBER	TASK DESCRIPTION	ACTIVITY	REFERENCE IN SDWRA-2000 SOP
Task 3	Developing Annual Water Discharge	Collecting a discharge measurement	Section 7.1 pp. 5-8
Task 4	Collect Water Chemistry Samples	Tributary Sampling Procedures	Section 7.1 pp. 1-5 and pp. 13-16
Task 5	Biological Monitoring	Macroinvertebrate Sampling	Section 15.1 pp. 1-16 and Section 16.0 1-14
Task 5	Biological Monitoring	Periphyton Sampling	Section 7.5 pp. 2-3
Task 6	Use of ANNAGNPS.	Running the ANNAGNPS model	Section 17.0
Task 9	Determining The Impact Of A Prairie Dog Town	Collecting a Discrete Sample	Section 8.0 pp. 1-2
Task 10	Quality Assurance/Quality Control	Quality Assurance Quality Control Sampling	Section 10.0 pp. 1-8

LITTLE WHITE RIVER ASSESSMENT PROJECT BUDGET			
PART 1: FUNDING SOURCES	2003	2004	TOTAL
EPA SECTION 319 FUNDS (FY-02)	\$8,000	\$42,500	\$50,500
NONFEDERAL FUNDS*	\$12,000	\$21,660	\$33,660
TOTAL BUDGET	\$20,000	\$46,000	\$84,160

*INCLUDES MULTIPLE COMMUNITY ORGANIZATIONS AND AGENCIES

Little White River Budget

ITEM	Total	Federal	Nonfederal	EPA 319 (FY-02)	State Fee Funds	Con. Commision	Local	Local Cash	Local In-kind
Local Coordinator (2600 @ \$15/hr)	\$39,000	\$29,000	\$10,000	\$29,000	\$10,000				
Local Administration	\$4,000		\$4,000		\$2,000		\$2,000	\$1,000	\$1,000
Travel	\$6,000		\$6,000		\$1,000		\$5,000	\$5,000	
Biological Analysis *	\$7,560	\$7,560		\$7,560					
Water Quality Analysis **	\$18,900	\$9,400	\$9,500	\$9,400		\$9,500			
Equipment	\$7,000	\$4,000	\$3,000	\$4,000	\$3,000				
Supplies and Shipping	\$1,700	\$540	\$1,160	\$540	\$1,000		\$160		\$160
Total	\$84,160	\$50,500	\$33,660	\$50,500	\$17,000	\$9,500	\$7,160	\$6,000	\$1,160
		60%	40%						

*Biological Analysis

Macro Invert 16 @ \$200	\$3,200
Periphyton ID 16 @ \$200	\$3,200
Periphyton Ash free Dry Weight 16 @ \$20	\$320
QA/QC Macro Invert 2 @ \$200	\$400
QA/QC Periphyton ID 2 @	\$400
QA/QC Periphyton Ash free Dry Weight 2 @ \$20	\$40

Subtotal **\$7,560**

**Water Quality Analysis

8 sites 104 @ \$150	\$18,900
Prairie Dog Analysis 36 @ \$45	\$1,620
QA/QC Water Quality 10 @ \$150	\$1,500
QA/QC Prairie Dog Analysis 4 @ \$45	\$180

Subtotal **\$18,900**

**Little White River Watershed Assessment Project
 Mellette Conservation District
 Milestone Chart
 2003-2004**

	2003				2004											
	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Objective 1 - Reference Site Selection																
Objective 2 - Tributary Sampling																
Objective 3 - Watershed Modeling																
Objective 4 - Prairie Dog Town Sampling																
Objective 5 - QA/QC																
Objective 6 - Public Participation																
Objective 7 - Reporting																

**SOUTH DAKOTA NONPOINT SOURCE PROGRAM
QUALITY ASSURANCE PROJECT PLAN**

SUBMITTED BY:

**SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL
RESOURCES
DIVISION OF FINANCIAL AND TECHNICAL ASSISTANCE
WATER RESOURCES ASSISTANCE PROGRAM**

**Prepared by: Robert Smith
February, 2001**

Project Title: Little White River Watershed Assessment

APPROVED BY:

South Dakota Watershed Protection Program
Environmental Senior Scientist, Assessment Section

Date

South Dakota Watershed Protection Program
Project Officer

Date

South Dakota Watershed Protection Program
Quality Assurance Coordinator

Date

South Dakota DENR Quality Assurance Officer

Date